

TRI-AGENCY FORECAST DISCUSSION FOR JULY 29, 2010

Tropical Areas of Interest Discussion: Created 1800 UTC July 29, 2010

Jon Zawislak

Summary: Despite continued mostly suppressed conditions across the Central and West Atlantic, organized convection was observed in some areas. Convection initiated along a stationary frontal boundary off the coast of Georgia, while a couple of isolated convective cells formed west of the Florida coast. 3 waves/pouches from yesterday's discussion remain: PGI-19L (centered near 70W), PGI-20L (centered near 54W), PGI-21L (centered near 10W over West Africa) (1). A new pouch was identified this morning: PGI-22L (centered near 25W) (1). Although 19L has shown scattered convection, 20L and 22L have shown organized deep convection in the early morning hours. The main dusty area is associated with 20L. No genesis is expected in the next 48 hours with any wave at the time of this forecast.

Forecast for 1800 UTC 7/29/2010:

There are currently no NHC identified areas of interest across the Atlantic basin. The tri-agency domain is predominantly dry air at higher latitudes east of 60W (2), which is inhibiting deep convection (3), and a convectively active wave train at lower latitudes (~12N) (3).

Despite a large-scale ridge over the southeastern United States, isolated convective cells have developed overnight to the west of the Florida coast (3) and along a stationary frontal boundary to the west of the Georgia coast (3). Expected locations tomorrow of similar convection will be farther east (perhaps near 75W), with a chance of isolated convective cells in the Gulf again tomorrow; TPW is showing moist air along the western Florida coast (4). These potential areas of convection were relevant enough to put the DC-8 on alert for microphysical investigations tomorrow.

PGI-19L (centered near 70W) has a weak low-level center and experiencing west/southwesterly deep shear (~30 kt) associated with an upper-level anticyclone over the Caribbean Sea (5) (6). Despite the presence of high TPW (4), large-scale subsidence associated with the anticyclone is suppressing organized deep convection. ECMWF pouch tracking (not shown) indicates a general westward movement coincident with the anticyclone, and indicates no intensification.

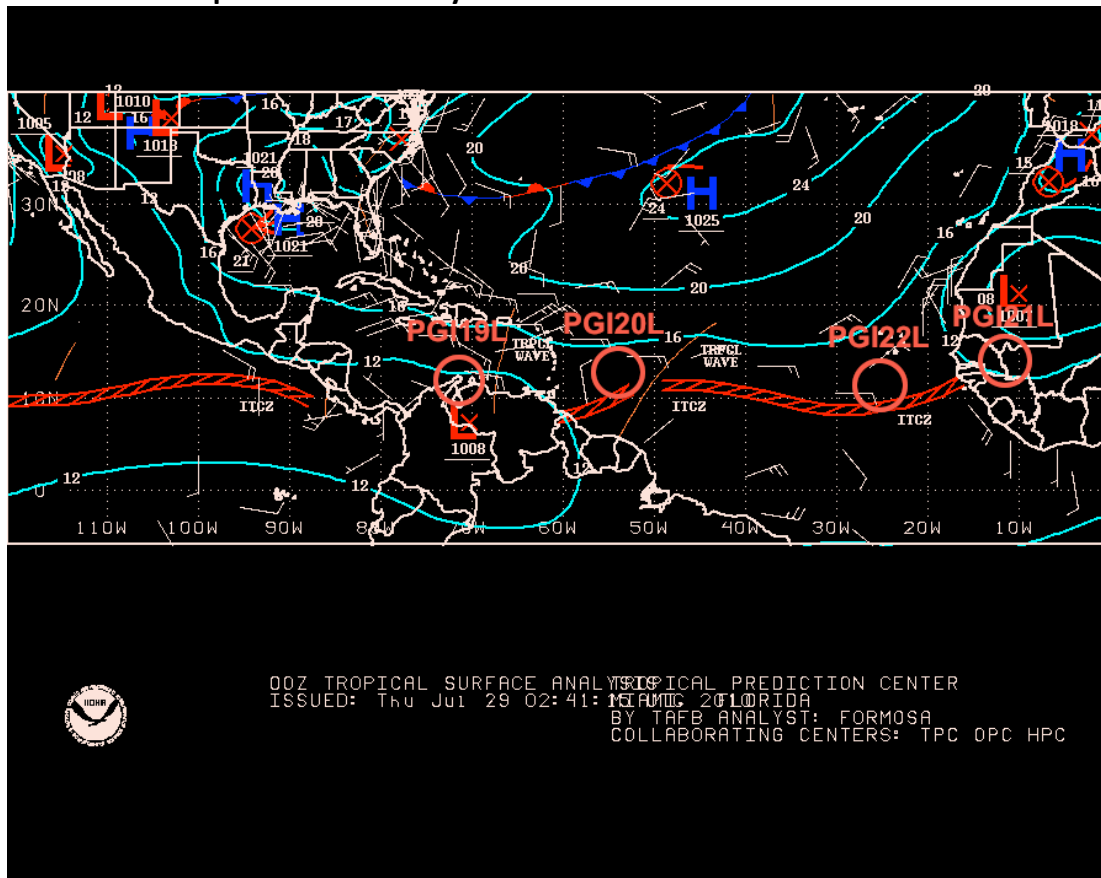
PGI-20 (centered near 54W) has high TPW (4) and has generally moderate (10-20 kt) westerly shear (6) and is experiencing widespread organized deep convection near and west of the low-level center (3). Dust continues to be coincident with the convection (7) (8). The main impact on PGI-20L will be an upper-level low centered to the north at 25N/55W (2). GFS indicates a generally southward extension/movement of the upper-level low, which will result in an increase in west/southwesterly shear above the center. Therefore, although convective activity may continue, little-to-slow intensification may result (see ECMWF OW/VOR, [9]). The current track is westward, remaining at a low-latitude (~13N) (ECMWF, [9]). Although the 3x3 box average shear is low-moderate (9); high shear is expected to impact radii farther north of the

pouch center due to the upper-level low. The GFS (not shown) shows a similar track and intensity. Here are the consensus forecast locations: 36 hrs (7/30 1200 UTC): 13N/63W, 60 hrs (7/31 1200 UTC): 14N/68W, 84 hrs (8/1 1200 UTC): 14N/74W. PREDICT is planning missions into this wave, while GRIP is potentially interested 2-3 days as the wave moves farther west.

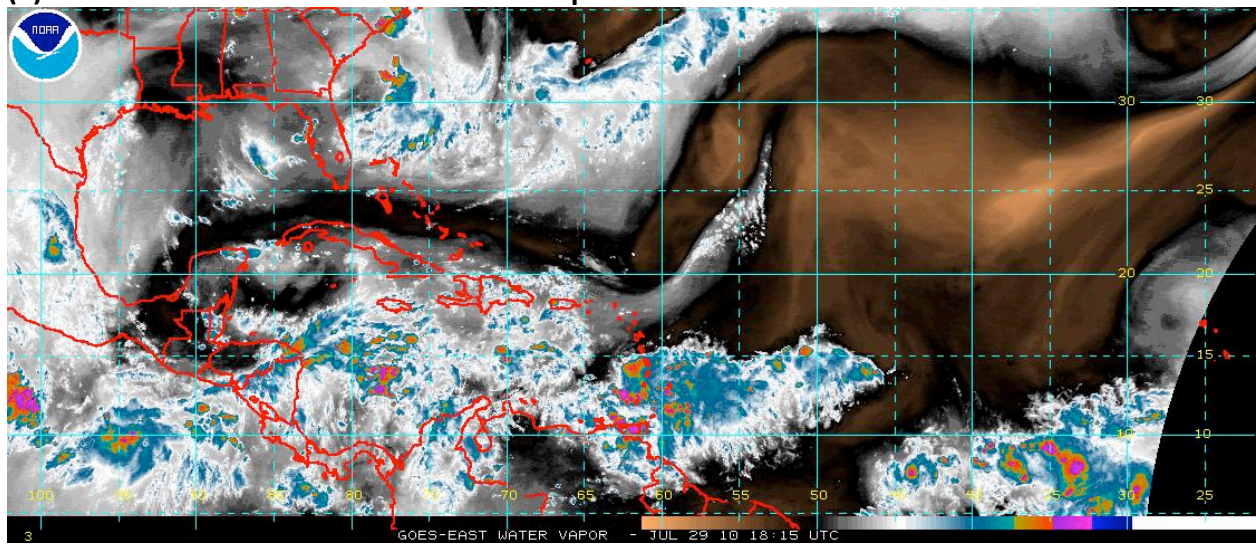
PGI-22L (centered near 25W) is showing organized deep convection (**10, 11**) to the west of the pouch. There is evidence of mid-level rotation, presumably due to an MCV, in the satellite loops. The origin of the wave/pouch is not exactly known, but hypothesized to be a remnant of MCS activity near the West Africa coast in the previous day, and is potentially interacting with east-west elongated ambient ITCZ vorticity. The consensus track (**11**) is for slow westward movement. Given the fact that the wave is weak, but convectively active, this disturbance will be closely monitored for potential future missions.

PGI-21L (centered near 10W) remains over Africa, but will be exiting in the next 12 hours. There is scattered convective activity near its center, and on the West African coast (**10**). While only a high latitude (~18-20N) low-level pouch was identified yesterday, a mid-level (~700 hPa) pouch will now be tracked. The ECMWF track (**12**) indicates westward movement into the Atlantic with some intensification in the 3-4 day period. The GFS (**13**) shows a similar track with little intensification.

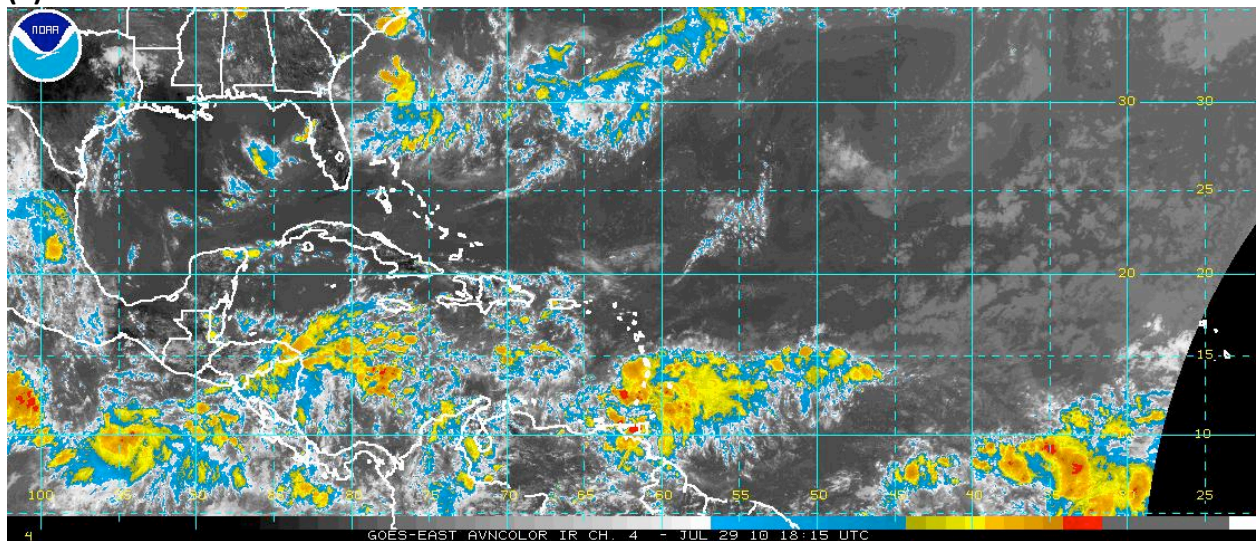
(1) 0000 UTC TPC Tropical Surface Analysis and Pouch Locations



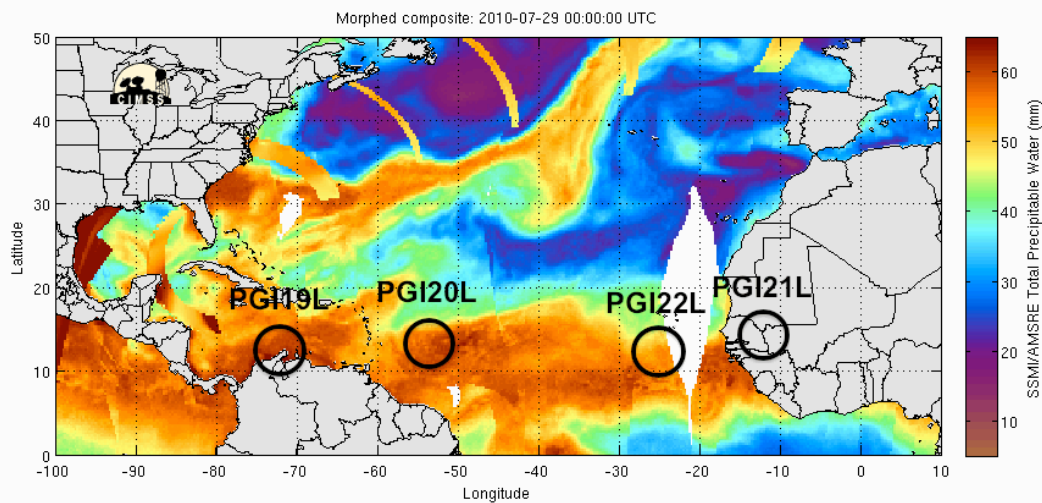
(2) 1815 UTC Atlantic Wide View Water Vapor



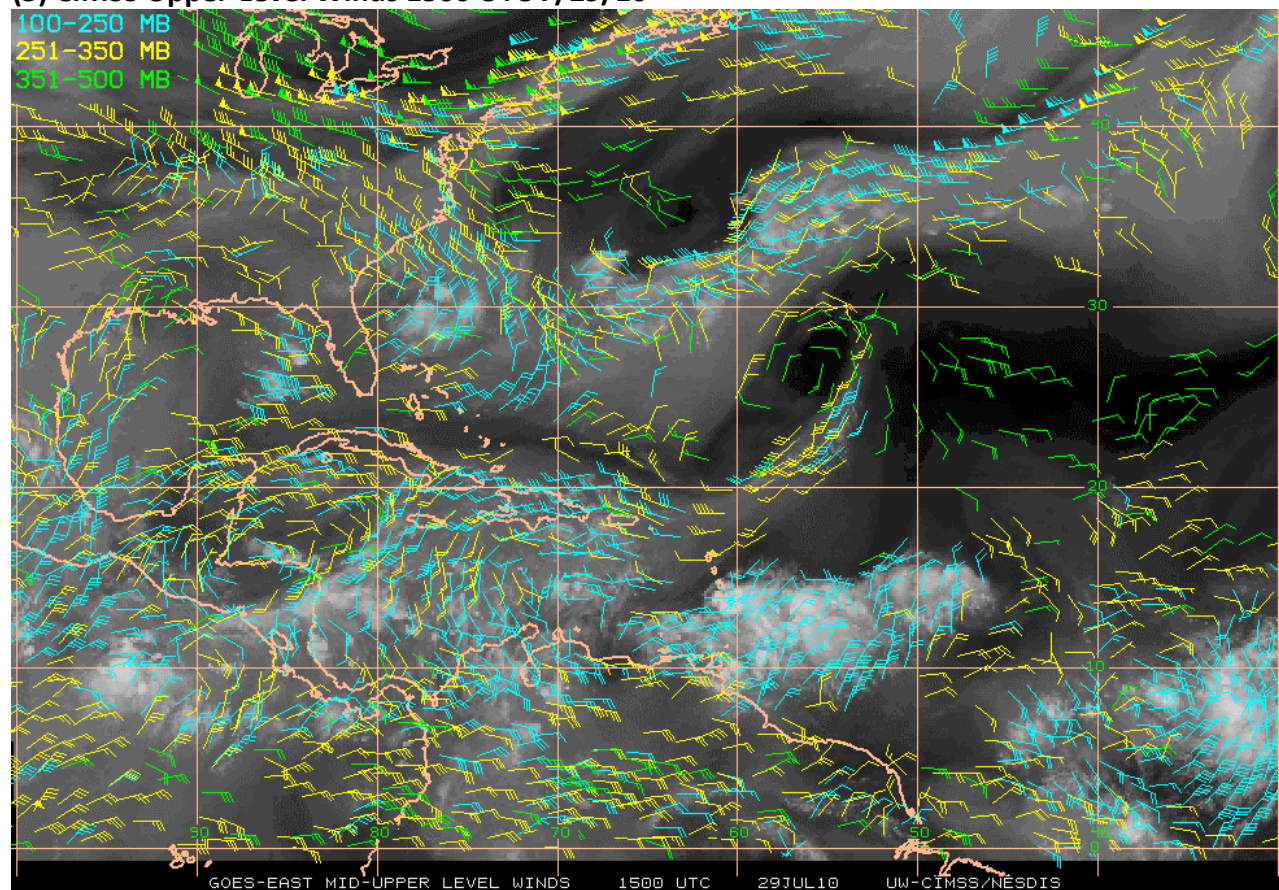
(3) 1815 UTC Atlantic Wide View IR



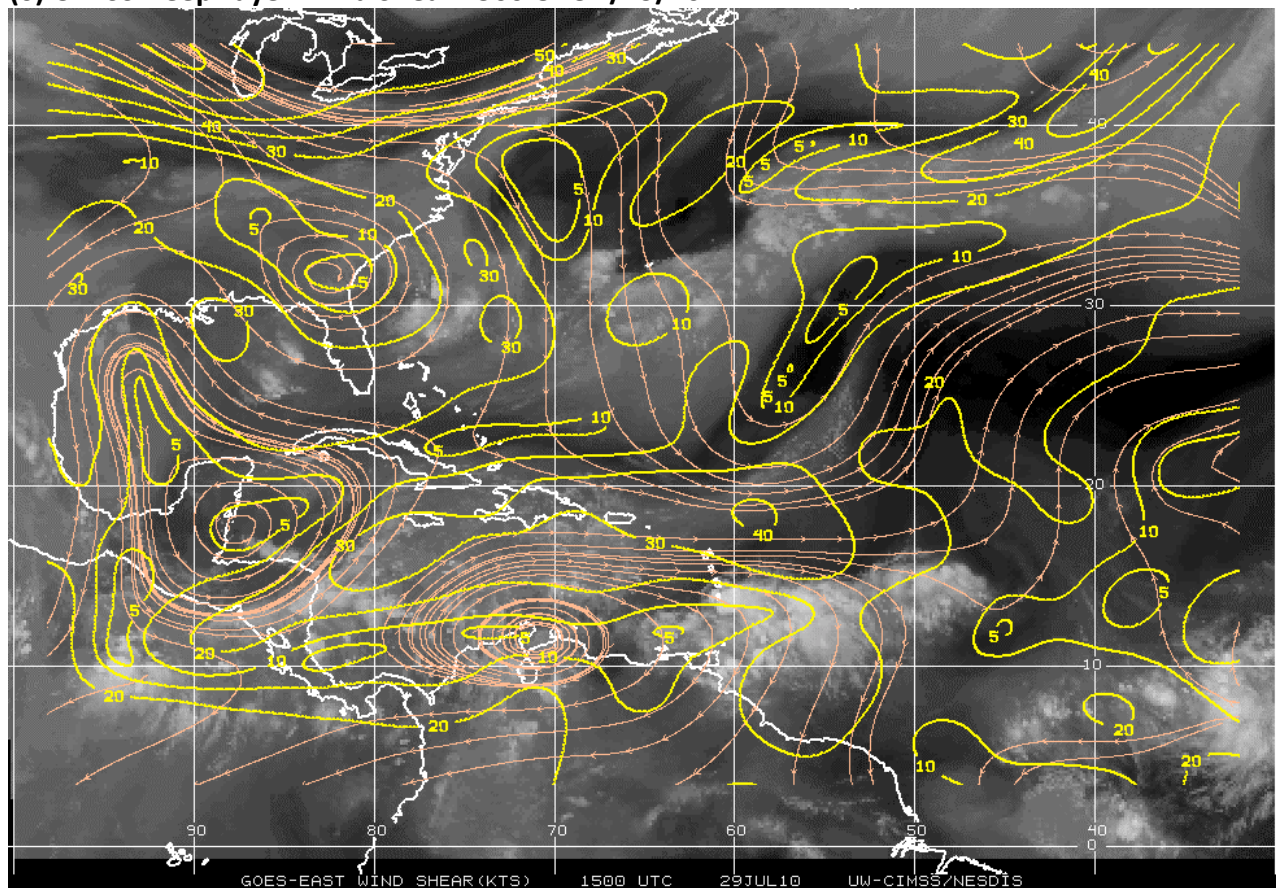
(4) Morphed Composite TPW 0000 UTC 7/29/10



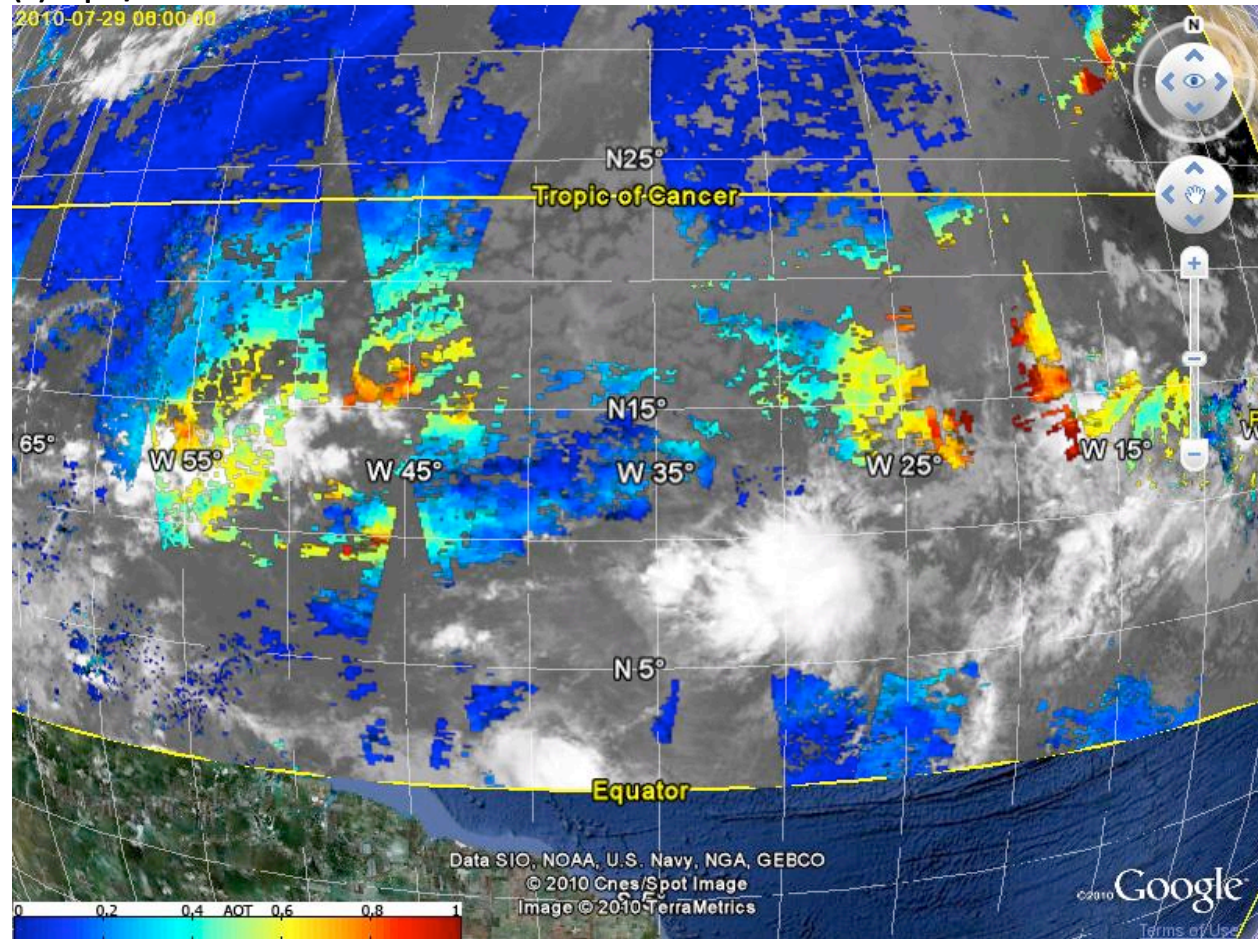
(5) CIMSS Upper-Level Winds 1500 UTC 7/29/10



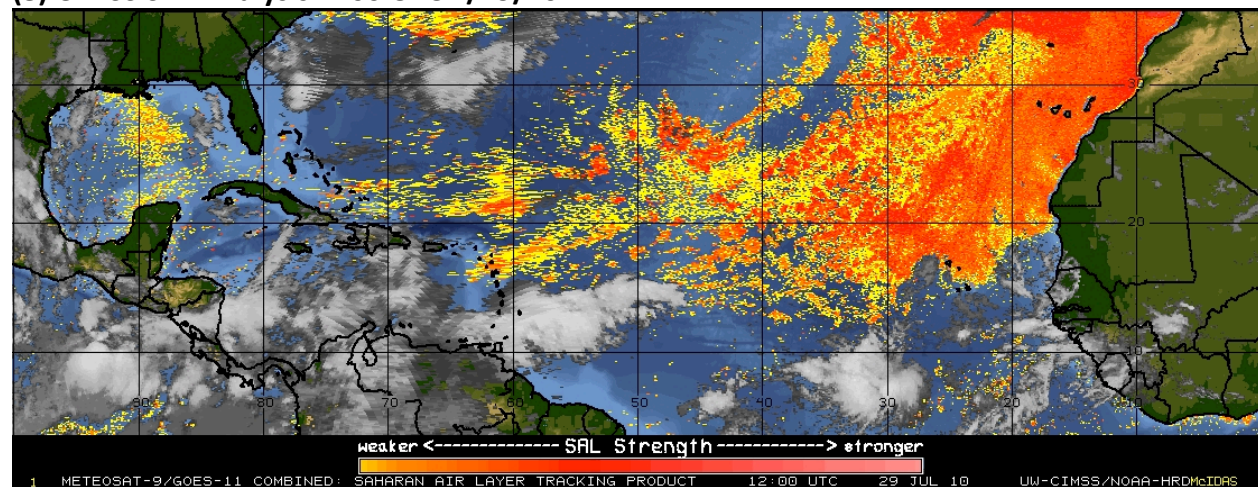
(6) CIMSS Deep Layer Wind Shear 1500 UTC 7/29/10



(7) Aqua/Terra AOT + GOES IR



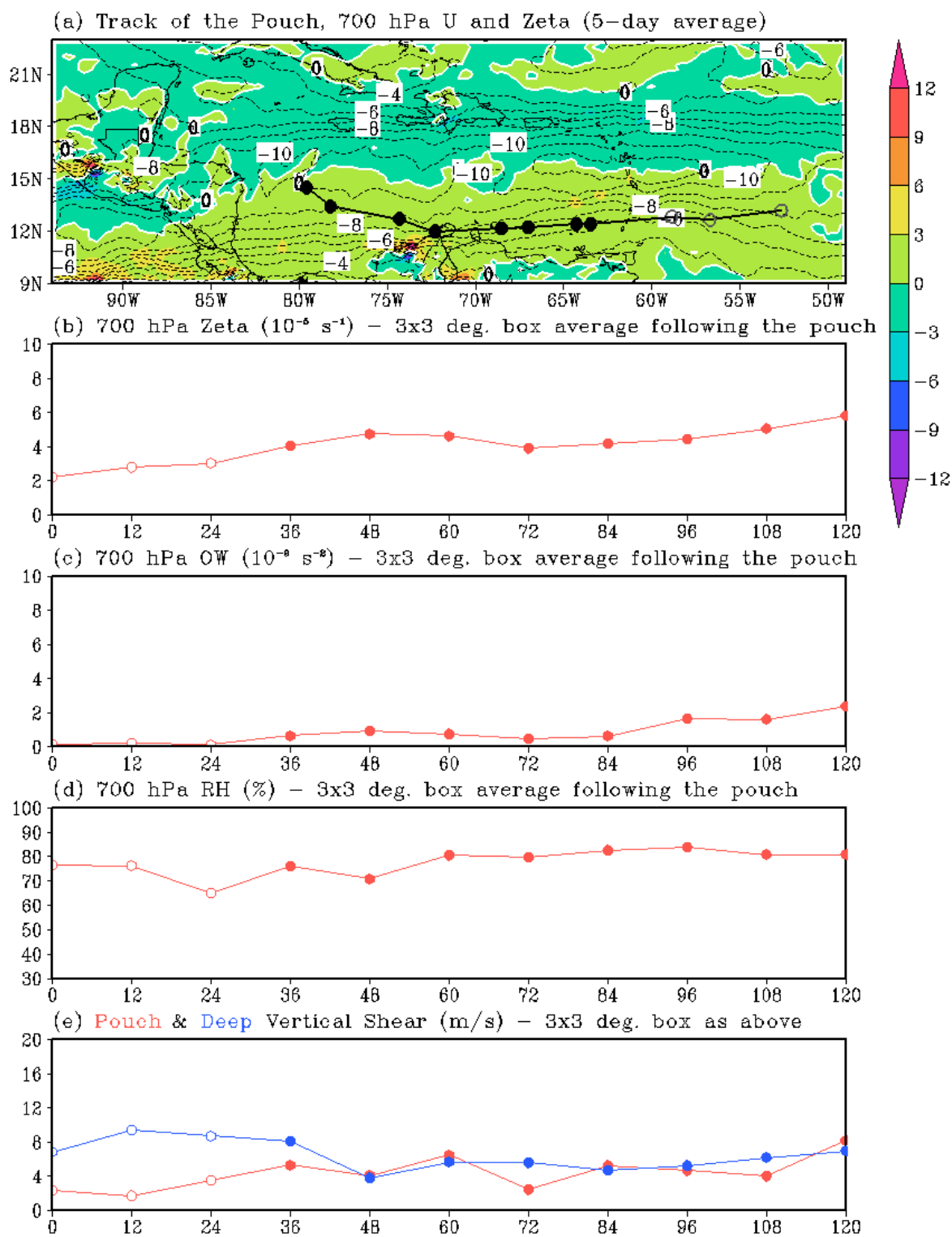
(8) CIMSS SAL Analysis 1200 UTC 7/29/10



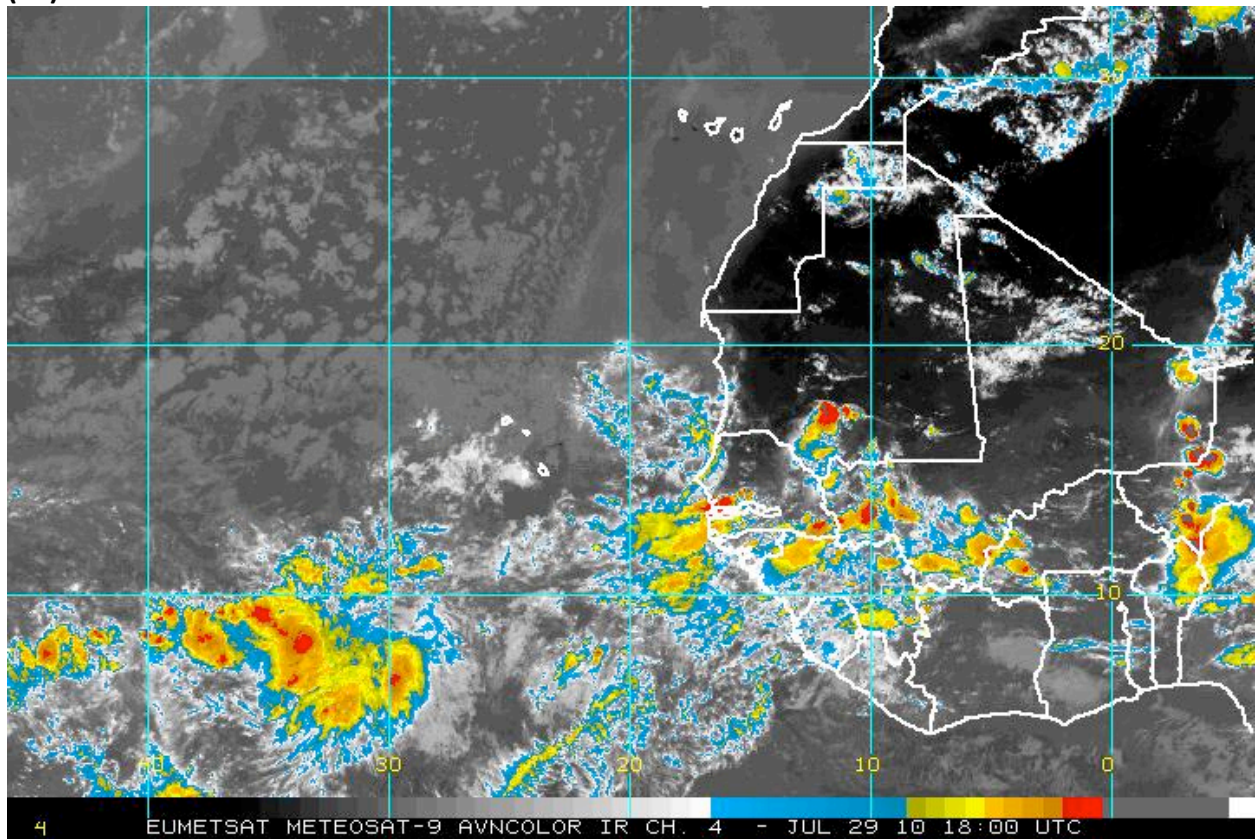
(9) 0000 UTC 7/29/10 ECMWF Pouch Forecast (PGI-20L)

PGI20L: 5-Day Forecast Based on ecmwf

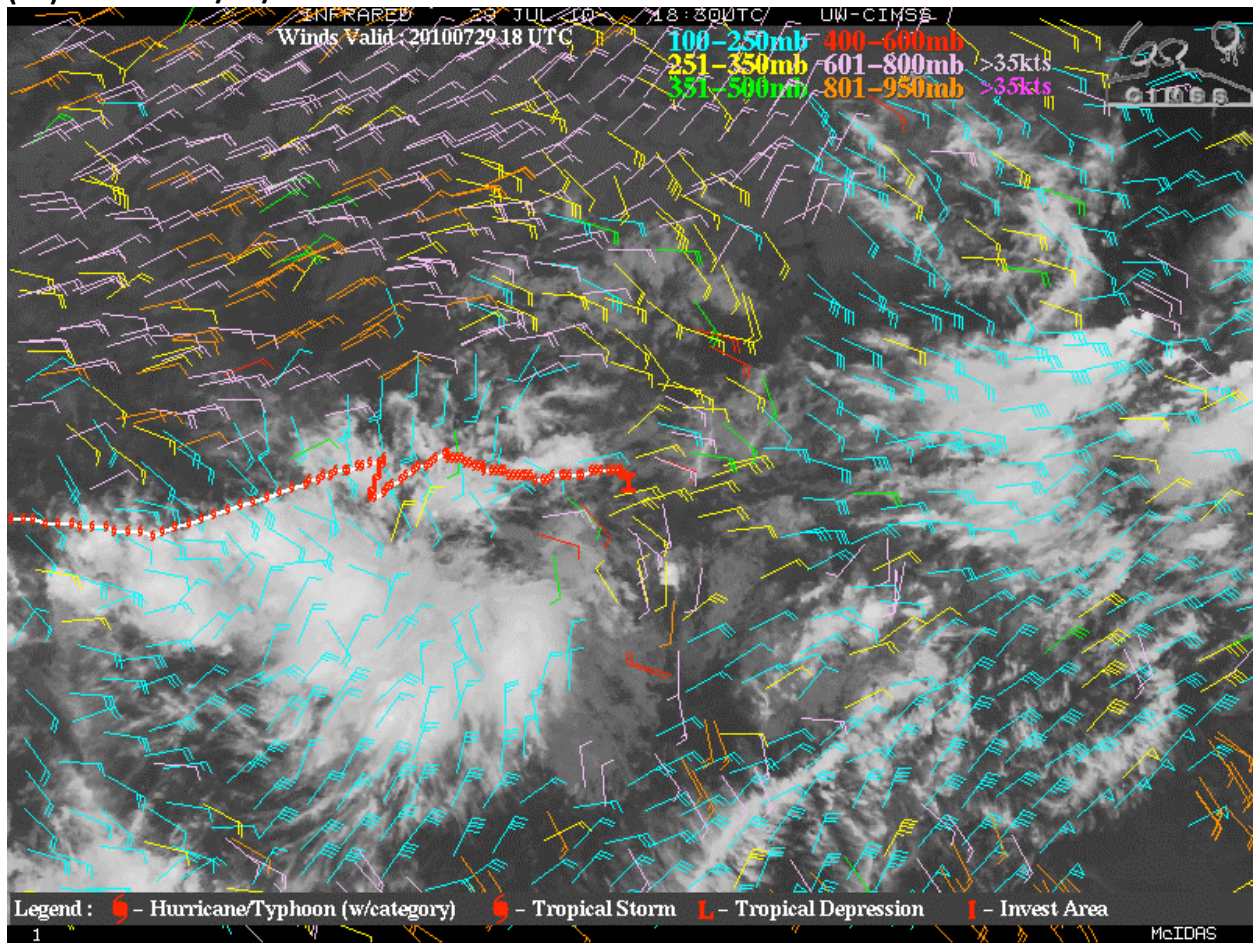
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(10) 1800 UTC METEOSAT East Atlantic IR



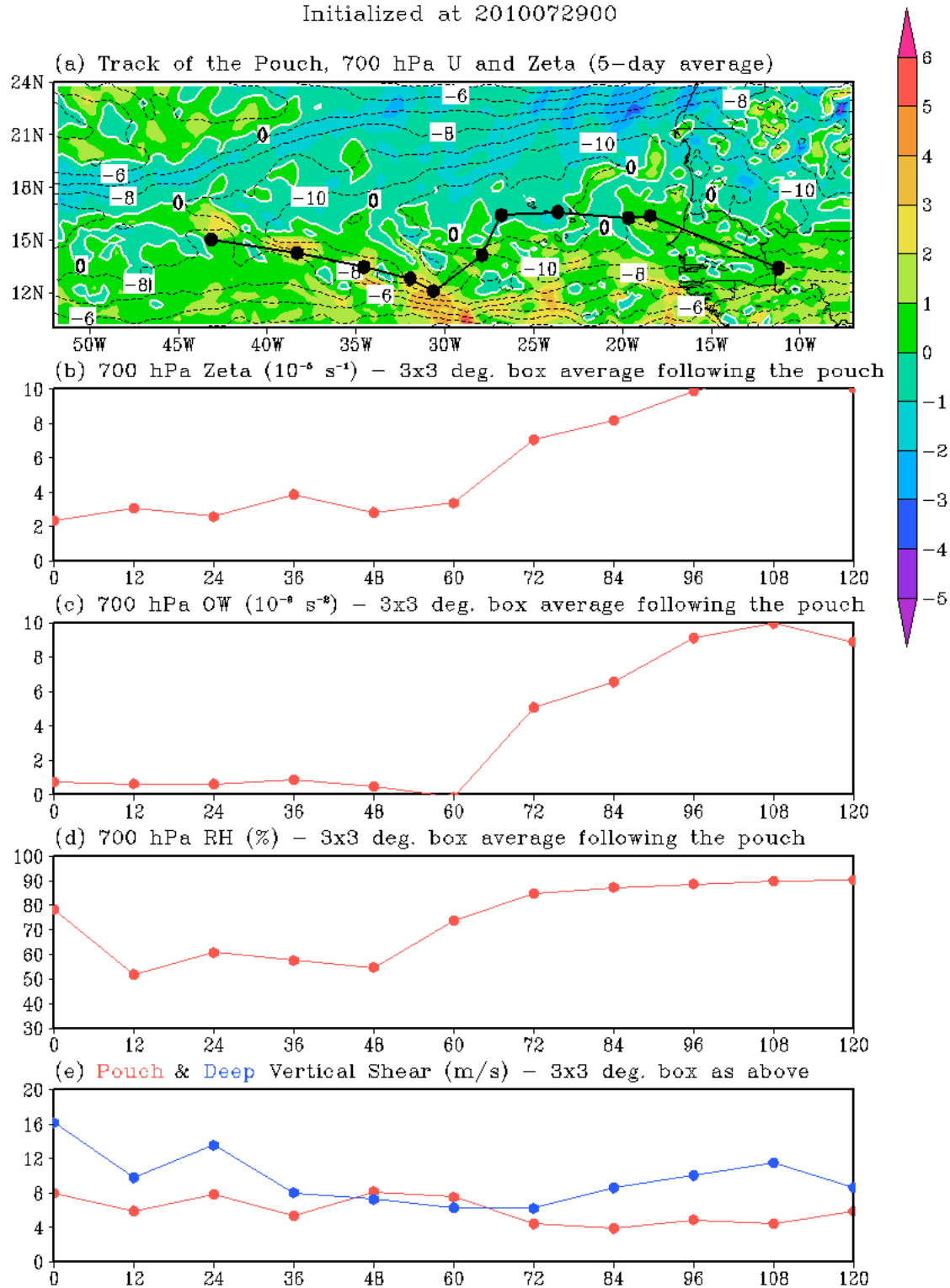
(11) 1800 UTC 7/29/10 Consensus Track PGI-22L + IR



(12) 0000 UTC 7/29/10 ECMWF Pouch Forecast (PGI-21L)

PGI21L: 5-Day Forecast Based on ecmwf

Initialized at 2010072900



(13) 0000 UTC 7/29/10 GFS Pouch Forecast (PGI-21L)

PGI21L: 5-Day Forecast Based on gfs

Initialized at 2010072900

